

Roadway Drainage

April 21, 2005 (#940)

**WSDOT East Selah Maintenance Facility, 900 E. Selah Rd.,
Yakima, WA 98901 (509) 575-2592**

April 26, 2005 (#941)

**WSDOT Kent Maintenance Facility, 26620 68th Avenue S.,
Kent, WA 98031 (253) 372-5681**

April 28, 2005 (#942)

**WSDOT SW Region Hdq. Conference Room 124,
11018 NE 51st Circle, Vancouver, WA 98682 (360) 905-2000**

(The phone numbers above may be used in case of emergency to contact a student in the class.)

Cost: \$45

Time: 8:30 a.m. to 4:00 p.m.

Class Size: 35

Instructor: William F. Heiden, P.E., L.S.

Target Audience

This workshop is for anyone who works with rural roads and has responsibility for maintenance and/or construction of roadways. Maintenance operators and supervisors of city, county, tribal, state, utility districts, contractors, state and forest service roads, BLM, and other agencies will expand their knowledge about roadway drainage.

Course Description

This one-day workshop will discuss appropriate methods to use in determining proper size of ditches and pipes as well as the proper method of constructing and maintaining each.

Subjects to be addressed

- Basic Road Design Characteristics
- Basic Soil Characteristics
- Basic Hydrology
 - Drainage Areas
 - Runoff Factors
 - Rainfall Intensity
- Hydraulics
 - Culvert Materials
 - Sizing Culvert
 - Sizing Ditches
- Placement of Culverts
- Culvert End Treatments
- Culvert and Ditch Maintenance



Students will receive a course manual "Roadway and Roadside Drainage" by David P. Orr, from the Cornell Local Roads Program, Ithaca, New York.

Instructor

Bill Heiden is a professional engineer and retired land surveyor. He has a background of over 40 years experience as a county road engineer and contractor working in the construction and maintenance of roads in Larimer and Gilpin Counties in Colorado. Since 1999 he has consulted and lectured in New Mexico, Arizona, South Dakota, Texas, Utah, Oklahoma, Indiana, Idaho, Oregon, Alaska, Wyoming, as well as in Washington State and British Columbia. Mr. Heiden is recognized throughout the United States for his expertise on drainage and gravel roads. He has a wealth of knowledge on practical business measures that can help cut costs for your agency.

Questions? Contact Laurel Gray at (360) 705-7355 or GrayL@wsdot.wa.gov

Registration

Please register on-line using this link: [On-line Registration Form](#) Fill in your information, select your class from the list, then press "Submit." A registration notice with driving directions to the training site is e-mailed to you when we process your request. **If you do not receive this e-mail notification within a few days, you are not registered and should contact us by phone.**

Please do not prepay, an invoice will be mailed after the class. Confirmation letters are mailed three weeks prior to the class. If you are unable to attend, someone else from your agency may attend in your place. To cancel your registration, or for assistance with registration, e-mail wst2center@wsdot.wa.gov or schmidw@wsdot.wa.gov or phone (360) 705-7386.

* A "unique identifier" for each student is now required when registering on-line. It may contain 3 to 8 alpha and/or numeric characters. You might use your phone extension number, a pet's name, your birthstone, birthdate, etc. but please make it something you will remember. Our computer will match your last name with your identifier to automatically and quickly register you into a class (providing there is space available).

(Disability accommodations provided upon request.)

Washington State Technology Transfer Center Web Page

www.wsdot.wa.gov/TA/T2Center/t2hp.htm



**Washington State
Department of Transportation**